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COMPLETE SPECIFICATION.

[Communicated from abroad by WILLIAM DICKEY KEARNS, of Pittsburg, County of Allegheny and State of Pennsylvania, one of the United States of America, Doctor of Medicine.]

Improvement in Flexed Splints.

I JOHN THOMSON KING, of 4 Clayton Square Liverpool in the County of Lancaster, Patent Agent, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

My invention consists in an improvement in splints for treating fracture of the fore arm or wrist, and it consists in giving to the splints a peculiar conformation which is especially adapted to secure the greater comfort of the patient, and to lessen the liability to displacement of the bones during the process of setting.

In the accompanying drawings forming part of this specification,

Figure 1 is a side view in perspective of a pair of my improved splints as applied to the fore arm and right hand of a patient.

Figure 2 is a top view of the palmar splint.

Figure 3 is a side perspective view of the palmar splint of Figure 2.

The splints represented in these figures and to which my improvement is applied form a pair, the upper one A in Figure 1 being the dorsal splint applied to the back of the hand and forearm, and the other splint B being the palmar splint, applied to the inside of the fingers, the palm of the hand and the front side of the forearm.

In my invention it is the palmar splint B which by its peculiar conformation is designed to govern the position of the hand, while the dorsal splint A serves merely to preserve the position of the bones of the arm, wrist, metacarpus, and fingers assumed by those parts when the palmar splint is applied to the hand.

In explaining my invention I shall confine the description chiefly to the palmar splint B for the reason that it is chiefly concerned in governing the position of the hand of the patient.

The palmar splint B instead of being straight longitudinally, is bent or inclined, the angle of inclination being at the wrist, as shown by the dotted line x—x of Figure 2, so that when the splint is applied to the hand and arm, with the brachial portion *a* under the forearm with the wrist of the patient's hand resting at the point of the splint marked *c* in Figure 3, and the palm of his hand and fingers resting on the metacarpal portion *b* of the splint, the hand assumes a position of inclination outwards when the palm of the hand is down, which it will be observed is the natural position of the human hand relatively to the forearm when the hand is at ease.

This palmar splint has also an abrupt upward flexure, or angle of retroflexion between the brachial portion *a* and the metacarpal portion *b*. This angle of retroflexion (as shown by the dotted lines *e, f, g*, in Figure 3) is from one hundred to one hundred and five degrees. This secures a greater degree of upward flexure of the hand at the wrist relatively to the forearm which I find to be very advantageous in practice.

At that portion of the palmar splint on which the wrist of the patient rests, I make an upward swelling or projection *h* on the upper or inside of the splint which extends a short distance up the brachial portion *a* and also transversely across the

[*Price* 8*d*.]

splint. This projection has the effect of forming a cavity or recess at the base of the palmar metacarpal portion of the splint for the reception of the ball of the thumb of the patients hand, thus relieving it of undue pressure and also permitting of a tolerably free movement of the thumb which is a great relief to the wearer.

The dorsal splint A is so shaped as to conform to the contour of the patient's hand when placed in the palmar splint, as seen in Figure 1, and corresponds with the palmar splint in having a corresponding retroflexion at the wrist as well as an outward inclination relatively to the brachial portion, also at the wrist as described.

It is hardly necessary to say that the splints for the left hand and arm will have the same degree of upward retroflexion, but the outward sidewise inclination will be in the opposite direction.

My improved splints may be made of wood, paper board, hard rubber, metal, or other convenient and suitable material.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

First. A flexed palmar splint for treating fracture of the forearm or wrist, having a longitudinal brachial surface and a metacarpal palmer surface at a somewhat obtuse angle to each other, the metacarpal portion being retroflexed or turned upwards at the wrist and also having a slight relative outward inclination in a sidewise direction; substantially as described.

Second. A flexed palmer splint for treating fracture of the forearm or wrist, having a longitudinal surface and a palmar metacarpal surface flexed relatively to each other at an angle of from about 100 to 105 degrees, the brachial portion having a slight transverse upward projection extending from the wrist just beyond the point of flexure so as to form a cavity at the base of the palmar metacarpal portion for the reception of the ball of the thumb of the patient, substantially as described.

Third. A pair of flexed splints for treatment of the forearm or wrist, consisting of a palmar splint and a dorsal splint, the palmar splint having a palmar metacarpal portion slightly inclined outwardly relatively to the brachial portion and abruptly flexed relatively to the brachial portion at the wrist at an angle of about 100 degrees in an upward direction, and the brachial portion having just beyond such point of flexure a slight projection on its inner surface extending the whole width of the splint, and the dorsal splint being so shaped as to form for the back of the hand, wrist, and forearm a counterpart of the palmar splint so as to fit the back of the hand and forearm, when they are resting on the palmar splint; substantially as described.

Dated the 10th day of July 1896.

J. T. KING.

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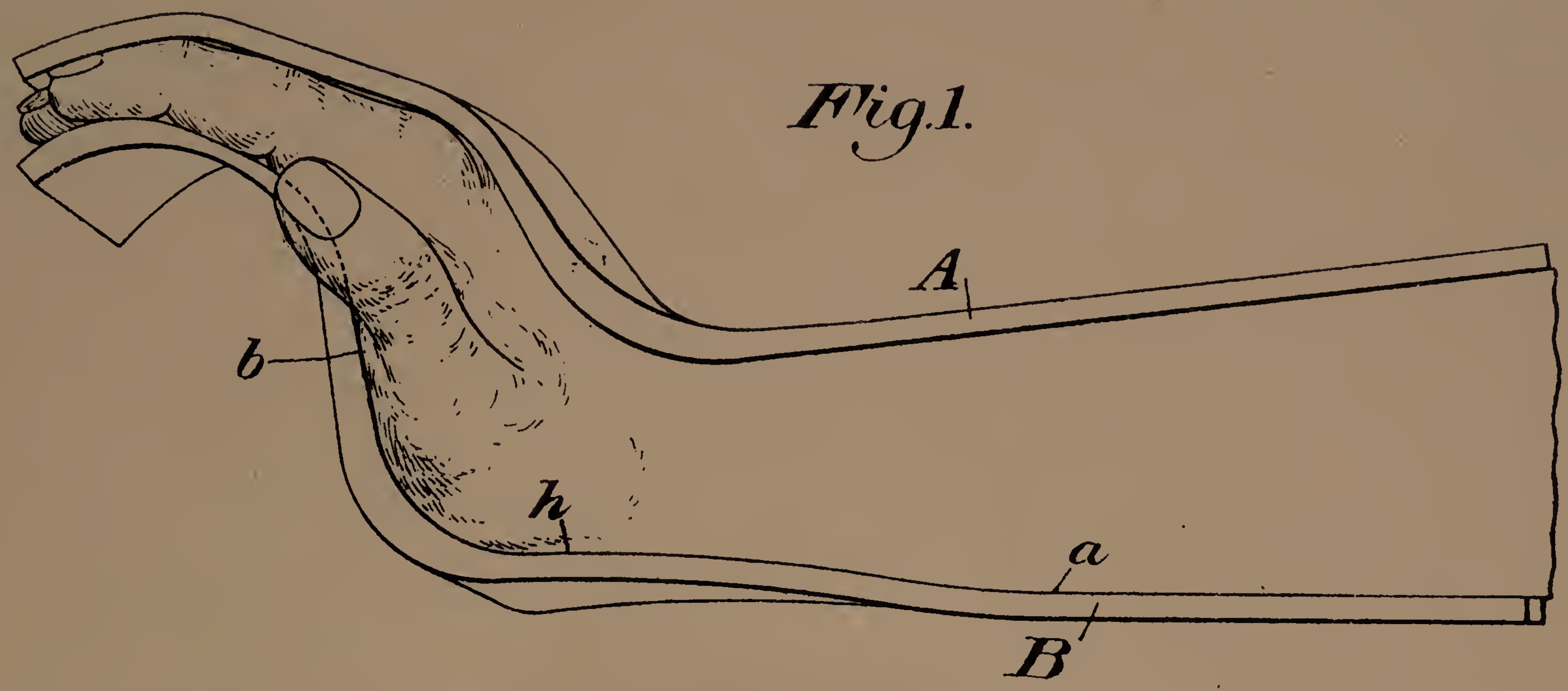

Fig. 1.

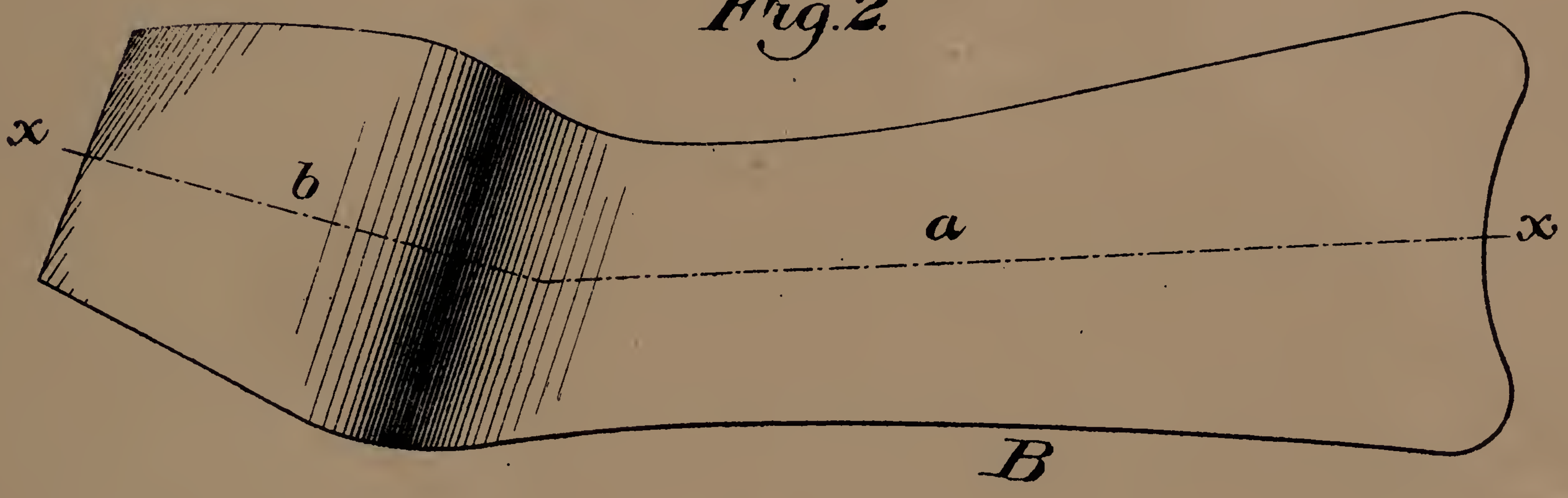

Fig. 2.

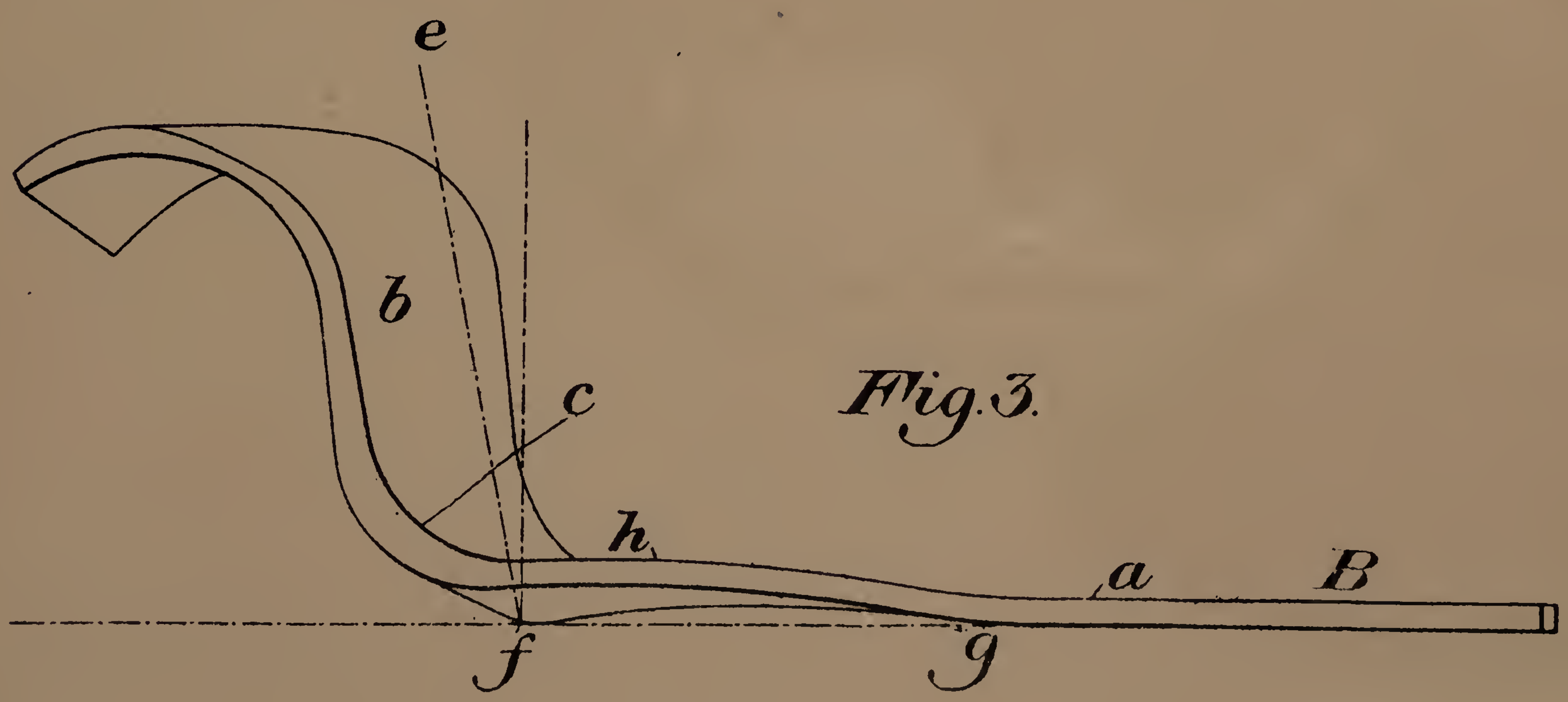

Fig. 3.

[This Drawing is a reproduction of the Original on a reduced scale]

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